

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A print cartridge comprising:
a cartridge body having a lower portion and a vertical wall;
a printhead coupled with the lower portion; and
a contact array comprising a plurality of contact areas disposed on the vertical wall, the contact array being one of at least two contact arrays, each having a different pattern of contact area locations, a portion of the contact areas of each contact array capable of providing identity information for the print cartridge and another portion of the contact areas of each contact array capable of providing an indication of whether the cartridge is installed in a printer.
2. (Currently Amended) The print cartridge of claim 1, wherein the portion of the contact areas capable of providing ~~identity information~~ are installation information is coupled to a component selected from the group consisting of temperature sense resistors, ~~identification bit contacts~~, inactive contacts, and ground contacts.
3. (Original) The print cartridge of claim 1, wherein one of the contact arrays in the at least two contact arrays includes a first pair of columnar arrays of contact areas and a second pair of columnar arrays of contact areas disposed on the vertical wall, the columnar arrays of each pair converging toward each other in a direction toward the lower portion of the cartridge body.
4. (Original) The print cartridge of claim 1, wherein each array of contact areas includes at least one columnar array of contact areas that is substantially linear.
5. (Original) The print cartridge of claim 1, wherein one contact array of the at least two contact arrays has a width of less than about 12 mm.

6. (Currently Amended) The print cartridge of claim 1, wherein the portion of the contact areas of each contact array capable of providing ~~identity~~ installation information for the print cartridge are located in a same location in each contact array of the at least two contact arrays.

7. (Original) The print cartridge of claim 6, wherein another portion of contact areas of each contact array are capable of receiving signals to operate the print cartridge and the another portion of contact areas are located in different locations in each contact array of the at least two contact arrays.

8. (Original) The print cartridge of claim 1, wherein the portion of the contact areas of each contact array capable of providing identity information for the print cartridge are the same in number in each contact array.

9. (Original) A method of making a fluid ejecting device, comprising:
electrically connecting one of a plurality of differently patterned contact array circuits to a printhead, the plurality of differently patterned contact array circuits each having a plurality of uniquely positioned contact areas and a plurality of commonly positioned contact areas; and
attaching the contact array circuit and printhead to a housing.

10. (Original) The method of claim 9, wherein the plurality of commonly positioned contact areas are coupled to components selected from the group consisting of temperature sense resistors, identification bit contacts, inactive contacts, and ground contacts.

11. (Currently Amended) A fluid ejection device comprising:
a fluid ejecting integrated circuit;
a contact array operably connected to the fluid ejecting integrated circuit, the contact array having a plurality of uniquely positioned contact areas and a plurality of commonly positioned contact areas, wherein the commonly positioned contact areas are arranged to make electrical contact with a fluid ejection system of more than one fluid ejection system family and communicate with circuitry providing an indication of installation ~~the identification information~~ of the fluid ejecting integrated circuit, and wherein the uniquely positioned contact areas are arranged to make electrical contact with a fluid ejection system of one fluid ejection system family and communicate with circuitry providing identification information of the fluid ejecting integrated circuit.

12. (Original) The fluid ejection device of claim 11, wherein the housing includes a lower portion and a vertical wall, and wherein the fluid ejecting integrated circuit is disposed on the lower portion and the contact array is disposed on the vertical wall.

13. (Original) The fluid ejection device of claim 12, wherein the contact array includes a first pair of columnar arrays of contact areas and a second pair of columnar arrays of contact areas, the columnar arrays of each pair converging toward each other in a direction toward the lower portion of the housing.

14. (Currently Amended) A print cartridge comprising:
a housing mechanically interoperable with printing systems of a plurality of printing system families;
means for ejecting fluid disposed on the housing; and
means for electrically coupling to a printing system, the means for electrically coupling including means for permitting ~~identification~~ detection of installation of the print cartridge and means for permitting operation of the means for ejecting fluid.

15. (Currently Amended) The print cartridge of claim 14, wherein the means for permitting operation of the means for ejecting fluid comprises a plurality of uniquely positioned contact areas and means for permitting ~~identification~~ detection of installation of the print cartridge comprises a plurality of commonly positioned contact areas.

16. (Currently Amended) The print cartridge of claim 14, wherein the means for permitting ~~identification~~ detection of installation of the print cartridge comprises means for sensing a temperature of the print cartridge.

17. (Currently Amended) A fluid ejection device comprising:
a body having a lower portion and a vertical wall,
a plurality of nozzles coupled with the lower portion, and
plurality of contact areas disposed on the vertical wall, the plurality of contact areas including a first group having a fixed layout of contact area locations, and a second group having a layout of contact area locations which is one a plurality of layouts of contact area locations, each layout being different than the other, wherein the ~~first~~ second group is coupled to provide identification information for the fluid ejection device.

18. (Original) The fluid ejection device of claim 17, wherein the first group and the second group include some of the same contact areas.

19. (Original) The fluid ejection device of claim 17, wherein the first group and the second group do not include some of the same contact areas.

20. (Currently Amended) The fluid ejection device of claim 17, wherein the first group is coupled to a component selected from the group consisting of temperature sense resistors, ~~identification-bit contacts~~, inactive contacts, and ground contacts.

21. (Original) The fluid ejection device of claim 17, wherein plurality of contact areas includes a first pair of columnar arrays of contact areas and a second pair of columnar arrays of contact areas, the columnar arrays of each pair converging toward each other in a direction toward the lower portion of the cartridge body.

22. (Original) The fluid ejection device of claim 17, wherein the plurality of contact areas has an area bounded in a first dimension that is less than about 12 mm.

23. (Currently Amended) The ~~print cartridge~~ fluid ejection device of claim 17, wherein the portion of the contact areas of each contact array capable of providing identity identification information for the print cartridge ~~are~~ is located in a ~~same~~ different location in each contact array of the at least two contact arrays.

24. (Currently Amended) The ~~print cartridge~~ fluid ejection device of claim 23, wherein another portion of contact areas of each contact array is capable of receiving signals to operate the print cartridge and the another portion of contact areas are located in different locations in each contact array.

25. (Currently Amended) The ~~print cartridge~~ fluid ejection device of claim 17, wherein the portion of the contact areas of each contact array capable of providing identity identification information for the print cartridge ~~are~~ is a same in number in each contact array.

26. (Currently Amended) A print cartridge comprising:
a cartridge body having a lower portion and a vertical wall;
a printhead coupled with the lower portion; and
a contact array comprising a plurality of contact areas disposed on the vertical wall, the contact array being one selected from a group comprising a first contact array that has a first layout of contact area locations, and a second contact array that has a second layout of contact area locations, wherein a portion of the contact area locations of the first layout and a portion of the contact area locations of the second layout are ~~different~~ the same, and another portion of the contact area locations of the first layout and another portion of the contact area locations of the second layout are ~~the same~~ different, and wherein the another portion of the contact area locations of the first layout and the another portion of the contact area locations of the second layout are coupled to provide identification information for the print cartridge.

27. (Currently Amended) The print cartridge of claim 26, wherein the another portion of the contact area locations of the first layout and the another portion of the contact area locations of the ~~first~~ second layout include some of the same contact area locations, ~~and the portion of the contact area locations of the second layout and the another portion of the contact area locations of the second layout include some of the same contact area locations.~~

28. (Currently Amended) The print cartridge of claim 26, wherein the another portion of the contact area locations of the first layout and the another portion of the contact area locations of the ~~first~~ second layout do not include some of the same contact area locations ~~and the portion of the contact area locations of the second layout and the another portion of the contact area locations of the second layout do not include some of the same contact area locations.~~

29. (Currently Amended) The print cartridge of claim 28, wherein the portion of the contact area locations of the first layout and the second layout is coupled to a component selected from the group consisting of temperature sense resistors, ~~identification bit contacts~~, inactive contacts, and ground contacts.

30. (Original) The print cartridge of claim 26, wherein first layout includes a first pair of columnar arrays of contact areas and a second pair of columnar arrays of contact areas disposed on the vertical wall, the columnar arrays of each pair converging toward each other in a direction toward the lower portion of the cartridge body.

31. (Original) The print cartridge of claim 26, wherein the first layout and the second layout each has a width of less than about 12 mm.

32. (Original) The print cartridge of claim 26, wherein a number of contact areas in the portion of the first layout and the second layout are a same in number.

33. (New) The print cartridge of claim 1, wherein the portion of the contact areas of each contact array are capable of providing identity information is located in different locations in each contact array of the at least two contact arrays.

34. (New) The fluid ejection device of claim 23, wherein another portion of contact areas of each contact array is capable of permitting detection of installation of the print cartridge and the another portion of contact area permitting detection of installation is located in different locations in each contact array.